

Math: Number & Operations in Base Ten: Operations with Multi-Digit Whole Numbers

Students: DesCartes Statements:

Students:	RIT 221-230: <ul style="list-style-type: none">• Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)• Multiplies multiple-digit numbers• Divides a 4-digit number by a 2-digit number
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Students:	RIT 211-220: <ul style="list-style-type: none">• Subtracts numbers with 5 digits or more with regrouping• Instantly recalls basic multiplication and division facts in a table• Multiplies a 3-digit number by a 2-digit number with regrouping• Performs mental computation with multiplication• Multiplies a 3-digit number by a 3-digit number• Multiplies a 4- or more digit number by multiples of 100 or 1000• Multiplies multiple-digit numbers• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder• Divides a 4-digit number by a 1-digit number with no remainder• Divides a 3-digit number by a 2-digit number• Divides a 4-digit number by a 2-digit number• Recognizes multiplication and division fact families
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Students:	RIT 201-210: <ul style="list-style-type: none">• Uses front end estimation for multiplication and division computations (whole numbers only)• Instantly recalls basic addition facts with sums to 18 in a table• Adds multiple-digit numbers, with regrouping, with sums over 1000• Performs mental computation with more than 4 addends• Subtracts 3- or 4-digit numbers with regrouping• Subtracts numbers with 5 digits or more with regrouping• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12• Instantly recalls basic multiplication and division facts in a table• Multiplies a 2-digit number by a 1-digit number with regrouping• Multiplies a 3- or 4-digit number by a 1-digit number• Multiplies multiple 1-digit numbers• Multiplies a 2-digit number by a 2-digit number with no regrouping• Multiplies a 3-digit number by a 2-digit number with regrouping• Performs mental computation with multiplication• Multiplies a 2- or 3-digit number by multiples of 10 or 100• Multiplies a 3-digit number by a 3-digit number• Instantly recalls division facts with dividend and divisors less than 13• Divides a 2-digit number by a 1-digit number with no remainder• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder• Divides a 4-digit number by a 1-digit number with no remainder• Divides a 3-digit number by a multiple of 10• Divides a 4-digit number by a 2-digit number• Recognizes multiplication and division fact families
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Students:	RIT 191-200: <ul style="list-style-type: none">• Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., $14 = 7 + 7$)• Uses number sense strategies to determine the correct answer for an addition computation• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000• Adds multiple-digit numbers, with regrouping, with sums over 1000• Subtracts 1-digit number from a 2-digit number with regrouping• Subtracts a 2-digit number from a 2-digit number, with regrouping• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)• Subtracts a 2-digit number from a 3-digit number with a single regrouping• Subtracts 3- or 4-digit numbers with regrouping• Performs mental subtraction with numbers under 1000• Subtracts multiple-digit numbers with no regrouping• Instantly recalls basic multiplication facts where one factor is 6-12 and the other factor is 0-12• Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping• Multiplies a 2-digit number by a 1-digit number with regrouping
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- Multiplies a 3- or 4-digit number by a 1-digit number
- Multiplies a 2-digit number by a 2-digit number with no regrouping
- Performs mental computation with multiplication
- Instantly recalls division facts with dividend and divisors less than 10
- Instantly recalls division facts with dividend and divisors less than 13
- Divides a 2-digit number by a 1-digit number with no remainder

Students:

RIT 181-190:

- Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., $14 = 7 + 7$)
- Adds 1-digit to multiple-digit number with regrouping
- Adds two or three 2-digit number with regrouping
- Adds 3-digit numbers, with regrouping, with sums under 1000
- Performs mental computation with 2, 3, or 4 addends
- Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000
- Adds multiple-digit numbers, with regrouping, with sums over 1000
- Subtracts 1-digit number from a 2-digit number with regrouping
- Subtracts a 2-digit number from a 2-digit number, with regrouping
- Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)
- Subtracts 2- and/or 3-digit numbers with no regrouping
- Subtracts 3- or 4-digit numbers with regrouping
- Performs mental subtraction with numbers under 1000
- Subtracts multiple-digit numbers with no regrouping
- Multiplies basic facts to 10×10 vertically
- Multiplies a 2-digit number by a 1-digit number with regrouping
- Instantly recalls division facts with dividend and divisors less than 10
- Recognizes addition and subtraction fact families through 18

Students:

RIT 171-180:

- Writes equivalent forms of whole number expressions (e.g., $15 + 5 = 10 + 10$)
- Uses models to calculate whole number sums through 999
- Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)
- Adds two or three 2-digit number with regrouping
- Adds 3-digit numbers with no regrouping
- Adds 3-digit numbers, with regrouping, with sums under 1000
- Uses models to calculate differences through 100 (whole numbers)
- Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)
- Subtracts a 2-digit number from a 2-digit number, with no regrouping
- Subtracts 2- and/or 3-digit numbers with no regrouping
- Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12
- Multiplies basic facts to 10×10 vertically
- Adds 1-digit numbers with sums to 18 (with parentheses)
- Recognizes addition and subtraction fact families through 18

Students:

RIT 161-170:

- Uses models to calculate whole number sums through 99
- Uses models to calculate whole number sums through 999
- Adds two 1-digit numbers with sums to 10 in horizontal format
- Adds two 1-digit numbers with sums between 10 and 19 in horizontal format
- Adds two 1-digit numbers with sums between 10 and 19 in vertical format
- Adds multiple 1-digit numbers
- Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)
- Adds 2-digit numbers with no regrouping
- Uses models to calculate differences through 100 (whole numbers)
- Subtracts two 1-digit numbers horizontally
- Subtracts a 1-digit number from a 2-digit number that is less than 20 (whole numbers only)
- Subtracts a 2-digit number from a 2-digit number, with no regrouping
- Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12

Students:

RIT Below 161:

- Uses models to calculate whole number sums through 99
- Adds two 1-digit numbers with sums to 10 in horizontal format